

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 June 2005 (09.06.2005)

PCT

(10) International Publication Number
WO 2005/052507 A1

(51) International Patent Classification⁷: **G01B 9/02**,
11/02, G01D 9/00, G02B 6/00

(21) International Application Number:
PCT/IL2003/001002

(22) International Filing Date:
26 November 2003 (26.11.2003)

(25) Filing Language: English

(26) Publication Language: English

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

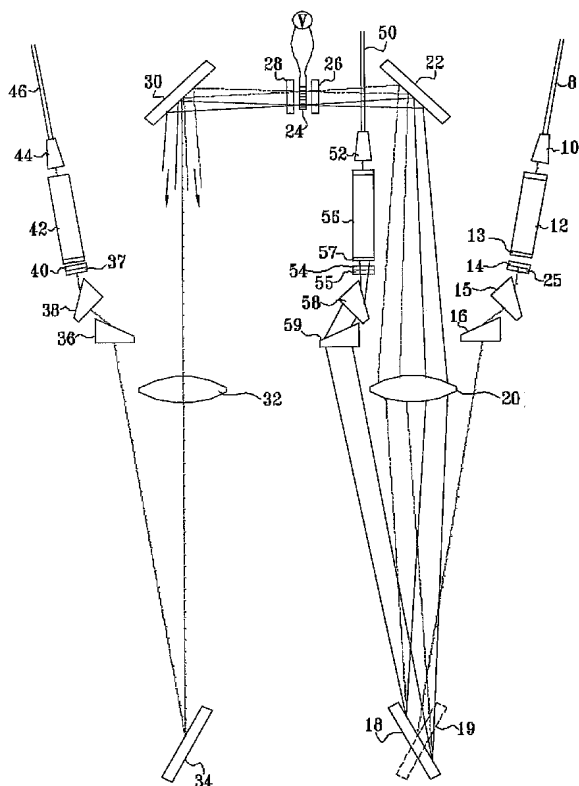
(84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: SINGLE-POLE OPTICAL WAVELENGTH SELECTOR



(57) Abstract: A single-pole, wavelength selective switch in which the input optical signal (18, 19) is converted to a light beam having a defined polarization, such as S-polarization, with respect to the system plane. The beam is laterally expanded in the system plane, and then spatially dispersed in the same plane as that of the beam expansion, preferably by means of a diffraction grating (34). The light is directed through a polarization conversion device, preferably a liquid crystal cell (24), pixelated along the wavelength dispersive direction such that each pixel operates on a separate wavelength. When the appropriate control voltage is applied to a pixel, the polarization of the light signal passing through that pixel is rotated, such as from S to P. The wavelength dispersed beams from the pixels are recombined, and are passed towards another polarizer at the switch output, aligned such that only the selected polarization components are allowed to exit.

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